

WHAT IS CLAIMED:

1       1. A MRI RF coil array, said array comprising:  
2       a first coil having a null  $B_1$  point and a quasi-one-peak  
3       sensitivity profile; and  
4       a second coil oriented with respect to said first coil to  
5       reduce coupling.

1       2. A MRI RF coil array according to claim 1, wherein said  
2       second coil is within said first coil.

1       3. A MRI coil array according to claim 1, wherein said  
2       second coil overlaps said first coil.

1       4. A MRI coil array according to claim 1, wherein said  
2       second coil is cascaded with said first coil.

1       5. A MRI coil array according to claim 1, wherein said  
2       second coil is solenoidal.

1       6. A MRI coil array, said array comprising:  
2       a first solenoidal coil having a first section and a second  
3       section, said first section having more turns than said  
4       second section and said second section having a  
5       counter-rotational orientation with respect to said  
6       first section; and  
7       a second solenoidal coil, said second coil being oriented  
8       with respect to said first coil to reduce coupling.

1       7. A MRI coil array according to claim 6, wherein said  
2       second coil is oriented between said first and second sections.

1           8. A MRI coil array according to claim 6, wherein said  
2   second coil is oriented about said second section.

1           9. A MRI coil array according to claim 6, wherein said  
2   second coil is cascaded with said first coil.

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